Exotic Oak Pest Commodity Survey Work Plan - Calendar Year 2011

Cooperator:	Kansas Department of Agriculture			
State:	Kansas			
Project:	Exotic Oak Pest Commodity Survey			
Project funding source:	Priority Survey ☒ State Discretionary Survey ☐ Other Line Item Pest ☐			
Project Coordinator:	Laurinda Ramonda			
Agreement Number	11-8453-1227-CA			
Contact Information:	**Address:**	PO Box 19282, Forbes Field Bldg 282, Topeka, Kansas 66619		
	Phone:	785-862-2180	**Fax:**	785-862-2182
	Email Address:	laurinda.ramonda@kda.ks.gov		

This Work Plan reflects a cooperative relationship between the Kansas Department of Agriculture (KDA) (the Cooperator) and the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Plant Protection and Quarantine (PPQ). It outlines the mission-related goals, objectives, and anticipated accomplishments as well as the approach for conducting an Exotic Oak Pest Commodity Survey and the related roles and responsibilities of the Kansas Department of Agriculture and USDA-APHIS-PPQ as negotiated.

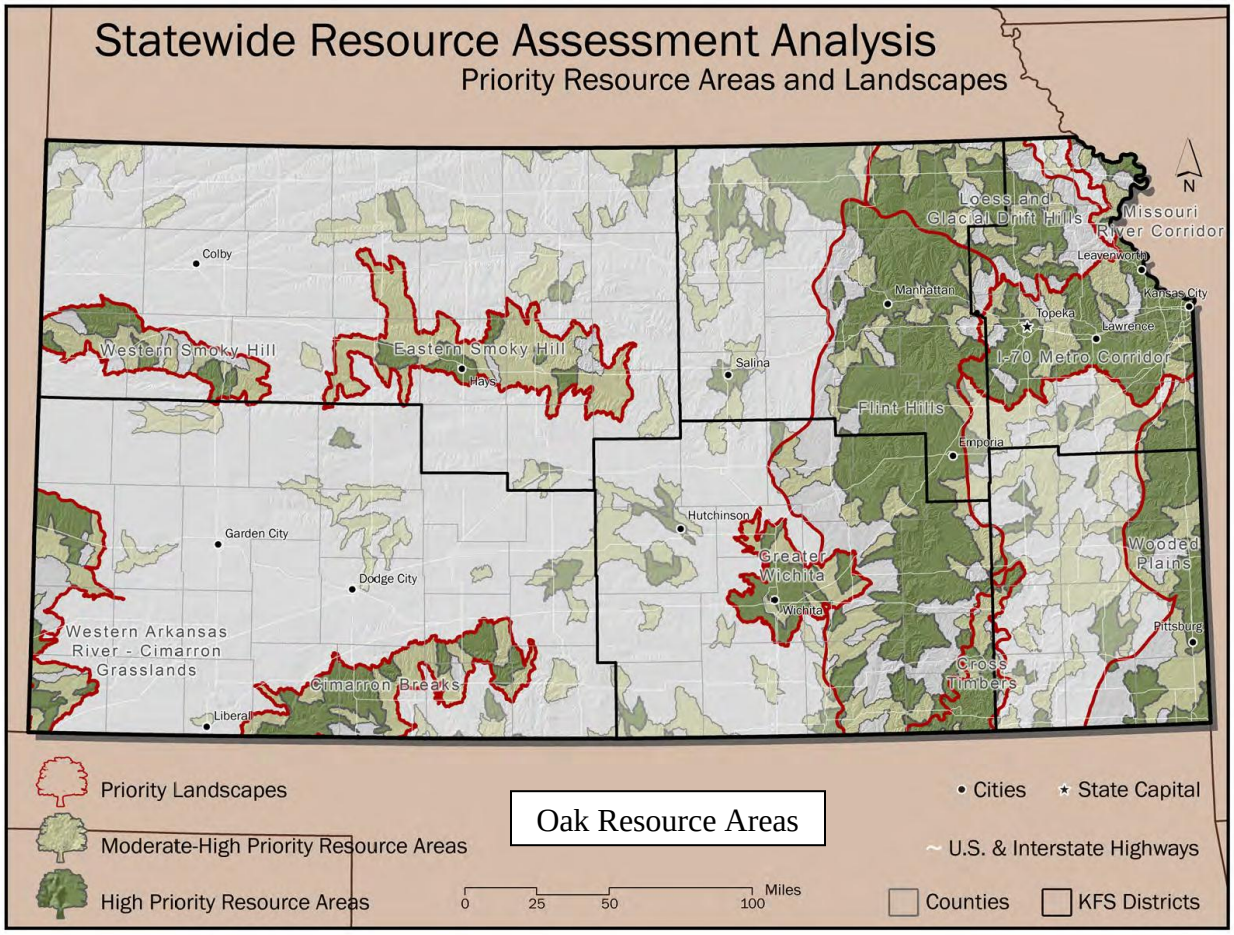
I) OBJECTIVES AND NEED FOR ASSISTANCE

This detection survey is planned for three years and will gather data to determine the status of exotic oak pests in Kansas. The first year is planned for the northeast to north central with 50 sites trapped, the second year for the southeast to south central with 50 sites trapped and the third year for the central to western half of the state with 30 sites trapped. Areas in and around the priority resource area for oak will be selected (see map below). Many of the pests on the 2011 Priority Pest List are pests of oak and Kansas has a high population of oak in the eastern part of the state and other large areas throughout the state. The potential loss could be substantial to the ecosystem, agriculture, the lumber and nursery industry and communities if these pests are not detected early.

Survey data from this project will be collected as we monitor high risk areas for the Rosy Gypsy Moth (AHP #14), False Codling Moth (AHP #33), Summer Fruit Tortrix (AHP #39), Green Oak Tortrix, Variegated Golden Tortrix (AHP #40), Asian Gypsy Moth and European Gypsy Moth. It will also ensure that the action taken if the pests are intercepted is effective in preventing their introduction into the environment. Data will also be gathered for use in future control programs.

This project will provide the Kansas Department of Agriculture and USDA-APHIS-PPQ, with information regarding the status of the target insects. This information can be used to determine appropriate response actions if positive finds are confirmed.

This survey cannot be carried out without financial assistance from USDA.



Survey Name	Scientific Name	Common Name	AHP
Exotic Oak Tree Pest Bundle Survey	*Lymantria Mathura*	Rosy Gypsy Moth	14
Exotic Oak Tree Pest Bundle Survey	*Thaumatotibia leucotreta*	False Codling Moth	33
Exotic Oak Tree Pest Bundle Survey	*Adoxophyes orana*	Summer Fruit Tortrix Moth	39
Exotic Oak Tree Pest Bundle Survey	*Tortrix viridana*	Green Oak Tortrix	Oak
Exotic Oak Tree Pest Bundle Survey	*Archips xylosteanus*	Variegated Golden Tortrix	40
Exotic Oak Tree Pest Bundle Survey	*Lymantria dispar dispar*	Asian Gypsy Moth	Oak
Exotic Oak Tree Pest Bundle Survey	*Lymantria dispar*	European Gypsy Moth	Oak

II) RESULTS OR BENEFITS EXPECTED

The Cooperator seeks to conduct a program which is expected to result in:

A. What results or benefits will be derived from the cooperative effort?

- Identification of pathways of introduction to limit future infestations.
- Support domestic and foreign exports of oak trees and wood from Kansas.
- Survey and identification of the Rosy Gypsy Moth, False Codling Moth, Summer Fruit Tortrix, Green Oak Tortrix, Variegated Golden Tortrix, Asian Gypsy Moth and European Gypsy Moth, if present.
- Reduced risk of economic hardship to the agriculture, wood and nursery industry and ecological diversity.
- Geographic assessment will occur from data gathered on locations of oak populations and high risk areas within those locations such as wood debris sites, sawmills, agriculture and specialty crop sites, etc.
- Protection to the state of Kansas from the introduction of Rosy Gypsy Moth, False Codling Moth, Summer Fruit Tortrix, Green Oak Tortrix, Variegated Golden Tortrix, Asian Gypsy Moth and European Gypsy Moth.
- Prevention of plant health restrictions.

III) APPROACH

What is the plan of action or approach to the work?

This survey is planned for three years. The first year is planned for the northeast to north central with 50 sites trapped, the second year for the southeast to south central with 50 sites trapped and the third year for the central to western half of the state with 30 sites trapped. Areas with high populations of oak will be selected. Other high risk areas that may be surveyed are nurseries, collection points, debris sites, etc. Survey and trapping will be done with temporary/seasonal staff and KDA full time employees when needed. Temporary/seasonal employees will be trained and monitored by the State Survey Entomologist and State Survey Coordinator. Traps will be checked and/or lure changed according to the lure recommendations, in most cases this will be every 4 weeks.

The first year fifty sites for these pests will be set. Wing traps will be used for the Rosy Gypsy Moth, False Codling Moth, Green Oak Tortrix and delta traps will be used for Asian Gypsy Moth, European Gypsy Moth and the Summer Fruit Tortrix. Possible counties to be surveyed: Atchison, Brown, Clay, Cloud, Dickinson, Doniphan, Douglas, Franklin, Geary, Jackson, Jefferson, Johnson, Leavenworth, Lyon, Marshall, Miami, Morris, Nemaha, Osage, Ottawa, Pottawatomie, Republic, Riley, Saline, Shawnee, Washington, Wabaunsee, and Wyandotte.

Trapping for the Rosy Gypsy Moth (*Lymantria Mathura*) will occur from May through August. Traps will be set in May and picked up traps in September. Traps should be placed 1.5-2 m above ground. Wing traps will be utilized with the pheromone of 1:4 ratio of (+)-mathuralure, (9*R*,10*S*)-*cis*-9,10-epoxy-*Z*3,*Z*6-nonadecadiene and (-)-mathuralure, (9*S*,10*R*)-

cis-9,10-epoxy-*Z*3,*Z*6-nonadecadiene which is attractive to males. The pheromone is most effectively deployed using PVC-coated string dispensers with 64µg pheromone per cm. Lure won't be replaced because it is a 12 weeks lure. Traps will be placed at least 20 meters from other traps for moth species.

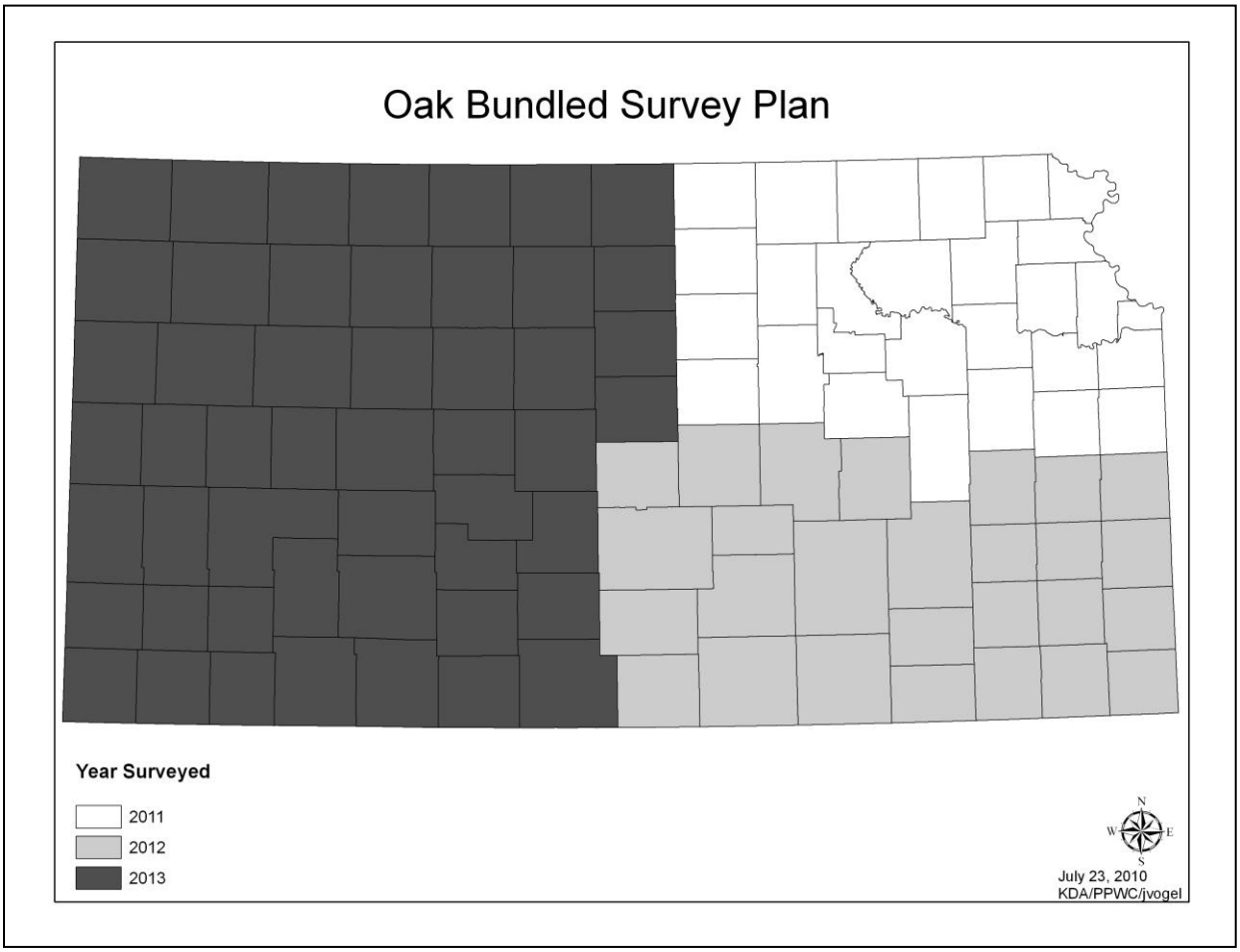
Trapping for the False Codling Moth (*Thaumatotibia leucotreta*) will occur from May to August. Set traps beginning in May and pick up traps by the end of September. Wing traps will be utilized with the pheromone of 70:30 to 30:70 blend of (*E*)-8-dodecenyl acetate and (*Z*)-8-dodecenyl acetate which is attractive to males. The pheromone blend (1 mg applied to a rubber septum) has been used effectively with Pherocon 1C traps. Traps should be placed approximately 1.5m high; 2-5 traps/ha. Lures will be replaced every 4 weeks. Traps should be placed at least 20 meters from other traps for moth species.

Trapping for the Summer Fruit Tortrix (*Adoxophyes orana*) will occur from April through August. Set traps in April and pick up traps in September. A delta trap with the pheromone of adoxomone, a 9:1 blend of (*Z*)-9-tetradecenyl acetate and (*Z*)-11-tetradecenyl acetate will be utilized. Traps should be placed approximately 1.5 m above the ground. Lure will be replaced every 12 weeks.

Trapping for the Green Oak Tortrix (*Tortrix viridana)* will occur from April through August. Set traps in April and pick up traps in September. Wing traps will be utilized with the pheromone (Z)-11-tetradecenyl acetate dispensed from a rubber septa loaded with 1 mg of attractant. Traps should be placed approximately 1.5 m above the ground and should be separated by at least 50 m. Lure will be replaced every 4 weeks.

Trapping for the Variegated Golden Tortrix (*Archips xylosteanus*) will occur from April through August. Set traps in April and pick up traps in September. Wing traps will be utilized with the pheromone (*Z*)-11-tetradecenyl acetate and (E)-11-tetradecenyl acetate dispensed from a rubber septa with 1 mg of attractant. Traps should be placed approximately 1.6 m above the ground and 50-100 m apart. Lure will be replaced every 4 weeks.

Trapping for the Asian Gypsy Moth (*Lymantria dispar dispar*) and European Gypsy Moth (*Lymantria dispar*) will occur from May through August. A delta trap with the pheromone cis-7R,8S-epoxy-2-methyloctadecane, in a disparlure will be utilized. The procedure for trapping Asian gypsy moth is identical to that for European gypsy moth and will use the same trap and lure. The traps will be checked monthly and lure won't be replaced.



A. The Cooperator and APHIS Mutually Agree to/that:

- Utilize Cooperator and APHIS program funding, as outlined in the Financial Plan, within the authorized parameters to support survey, detection and objectives.
- Maintain a State Cooperative Agriculture Pest Survey committee that will meet at least once a year.
- Work together in carrying out field surveys, trapping and data collections, emphasizing pest and diseases that may pose an immediate risk to the agriculture of the state and United States.
- Have representation at national and/or Regional annual meetings.

1. What is the quantitative projection of accomplishments to be achieved?

a. By activity or function, what are the anticipated accomplishments by month, quarter, or other specified intervals?

- Trapping will occur from April to August with traps removed in September- trap deployment months are dependent upon type of lure and pest.
- Traps checked monthly and lure changed as needed.
- Fact sheets, webpage, resources, and pest reporting will be continually updated as new information becomes available.

- Data will be entered into the NAPIS database when pest identification is confirmed and/or becomes available.
- GPS coordinates will be included with surveys.
- Survey and identification of the Rosy Gypsy Moth, False Codling Moth, Summer Fruit Tortrix, Green Oak Tortrix, Variegated Golden Tortrix, Asian Gypsy Moth and European Gypsy Moth.
- Suspect specimens in traps will be forwarded to a qualified identifier.

b. What criteria will be used to evaluate the project? What are the anticipated results and successes?

- Pest detection survey activities completed.
- All data collected from the pest detection survey is entered into the NAPIS database.
- SPHD, SPRO, PSS, SSC meetings to keep updated on issues, if needed.
- Presence or absence of the Rosy Gypsy Moth, False Codling Moth, Summer Fruit Tortrix, Green Oak Tortrix, Variegated Golden Tortrix, Asian Gypsy Moth and European Gypsy Moth.
- Better knowledge for the wood, nursery and agriculture industry.
- Better knowledge of high risk sites.

c. What methodology will be used to determine if:

1. Identified needs are met

- Survey completed within timeframe specified.

2. Results and benefits are achieved

- Review of the NAPIS database to ensure that data from the pest detection activities have been entered.
- Review of the accomplishment reports, supporting outreach materials (if applicable), and maps.
- SPHD, SPRO, PSS, SSC meetings to keep updated on issues.

2. What type of data will be collected and how will it be maintained?

a. Address timelines for collection and recording of data.

All survey data from cooperative agreements involving pest surveys will be entered by the State Survey Coordinator or KDA staff into the NAPIS database to include but not limited to observation number, observation date, data source, state/county, site code, pest code, pest status, and survey method.

The data entry requirements are:

- Enter new national, state, and county records into NAPIS database within 48 hours of confirmation of a pest or pathogen identification by a recognized identifier.
- Non-time sensitive records, including negative data, must by entered into NAPIS within 2 weeks of confirmation.
- Negative data will be entered within 2 weeks of decommissioning a trap, obtaining the results from an identifier, or performing a laboratory assay.
- Survey data will be collected with GPS technology for internal pathway analyses. Survey maps will be developed from approved GIS mapping software.

b. How will APHIS be provided access to the data?

- Complete, accurate, and timely pest survey data will be entered into NAPIS using approved protocol and accessible.
- Semi-annual and annual survey reports submitted to Western Region.

B. The Cooperator will:

- Document locations by GPS coordinate.
- Equipment used in this survey will be maintained by cooperator upon completion of project.
- Conduct surveys in oak pest high risk areas in the northeastern and north central part of Kansas from April 2011 to September 2011.
- Hire temporary/seasonal staff to set up and monitor traps.
- Document locations by GPS coordinate.
- Supply GPS equipment.
- Provide KDA staff when needed.
- Provide vehicle and fuel for travel for conducting survey and collecting data.
- Provide lodging when needed.

1. By function, what work is to be accomplished?

- Trapping for the Rosy Gypsy Moth (*Lymantria Mathura*) will occur from May through August with lure replacement every 12 weeks.
- Trapping for the False Codling Moth (*Thaumatotibia leucotreta*) will occur from May to August with lure replacement every 4 weeks..
- Trapping for the Summer Fruit Tortrix (*Adoxophyes orana*) will occur from April through August with lure replacement every 12 weeks.
- Trapping for the Green Oak Tortrix (*Tortrix viridana*) will occur from April through August with lure replacement every 4 weeks.
- Trapping for the Variegated Golden Tortrix (*Archips xylosteanus*) will occur from April through August with lure replacement every 4 weeks.
- Trapping for the Asian Gypsy Moth (*Lymantria dispar dispar*) and European Gypsy Moth (*Lymantria dispar*) will occur from May through August with lure replacement every 4 weeks.

- Survey and trapping will be done with temporary/seasonal help and KDA full time employees when needed. Temp employees will be trained and monitored by the State Survey Entomologist and State Survey Coordinator.
- Data will be entered into the NAPIS database when pest identification is confirmed and/or becomes available.
- GPS coordinates will be included with surveys.
- Suspect specimens in traps will be sent to a qualified identifier.

2. What resources are required to perform the work?

- Qualified identifier for identification.
- Temporary/seasonal employees to be hired through CAPS survey to conduct survey.
- KDA permanent staff will help when needed for collection and training.
- GPS unit and map for locations.
- Rental vehicle and fuel or state vehicles are required set up and monitor traps.
- Provided by Cooperator - office space with associated services and utilities, computers and other office equipment for the use of Cooperator personnel. These include digital camera, GPS unit and computer with internet service. Computers will be used for entering survey data into the state survey database and NAPIS database.

3. What numbers and types of personnel will be needed and what will they be doing?

- Temporary/seasonal and permanent KDA staff will be setting and checking traps.
- Data acquired will be entered into NAPIS by State Survey Coordinator or KDA staff.
- KDA staff will help when needed for collection and/or sorting and training.
- Qualified identifier for specimen identification.

4. What equipment will be needed to perform the work? Include major items of equipment with a value of $5,000 or more.

a. What equipment will be provided by the cooperator? N/A

b. What equipment will be provided by APHIS? N/A

c. What equipment will be purchased in whole or in part with APHIS funds? N/A

d. How will the equipment be used? N/A

e. What is the proposed method of disposition of the equipment upon termination of the agreement/project? N/A

5. **Identify information technology equipment, e.g., computers, and their ancillary components.**
   Provided by KDA - office space with associated services and utilities, computers and other office equipment for the use of Cooperator personnel. These include digital camera, GPS unit, PDA and computer with internet service.

6. **What supplies will be needed to perform the work?**

- Traps
- Lure
- Hand lenses
- Vials
- Shipping boxes
- Hand tools (pruners)
- Insect repellant
- Ziploc bags
- Alcohol
- Alcohol proof pens
- Fuel for rental vehicle
- GPS units and digital camera
- Comparison specimens for Rosy Gypsy Moth, False Codling Moth, Summer Fruit Tortrix, Green Oak Tortrix, Variegated Golden Tortrix, Asian Gypsy Moth and European Gypsy Moth, if available.

a. What supplies will be provided by the Cooperator?

- GPS units and digital camera

b. What supplies will be provided by APHIS?

- Traps
- Lure

c. What supplies will be purchased in whole or in part with APHIS funds?

- Supplies for the collection of specimens (hand lenses, vials, shipping boxes, hand tools, insect repellant, Ziploc bags, alcohol, alcohol proof pens, insect pins).
- Supplies for shipping specimens (shipping boxes).
- Fuel for rental vehicle

d. How will the supplies be used?

- Planning, implementation, data collection and data submission of survey.
- Pest detection survey work.
- Shipping of specimens to identifiers or labs.

e. What is the proposed method of disposition of the supplies with a cumulative value over $5,000 upon termination of the agreement/project?

- There should not be any.

7. What procurements will be made in support of the funded project and what is the method of procurement (e.g., lease, purchase)?

- The Fiscal Department at the Kansas Department of Agriculture will provide most contracts.
- Temporary staffing/seasonal staffing will be employed by KDA.
- Most procurements will be made by purchase order.
- Some procurements will be made by reimbursable personal expense.

8. What are the travel needs for the project?

a. Is there any local travel to daily work sites? Who is the approving official? What are the methods of payment? Indicate rates and total costs in the Financial Plan.

- Travel will be required to survey sites by use of a KDA or rental vehicle.
- The KDA Plant Protection and Weed Control Plant Program Manager is the approving official.
- Costs are included in the financial plan.

b. What extended or overnight travel will be performed (number of trips, their purpose, and approximate dates). Who is the approving official? What is the method of payment? Indicate rates and total cost in the Financial Plan.

- The KDA Plant Protection and Weed Control Plant Program Manager is the approving official.
- Costs are included in the financial plan.

9. Reports:

a. Submit all reports to the APHIS Authorized Department Officer's Designated Representative (ADODR). Reports include:

1. Narrative accomplishment reports in the frequency and time frame specified in the Notice of Award, Article 4.

2. Federal Financial Reports, SF-425 (replaces SF-269 October 1, 2009) in the frequency and time frame specified in the Notice of Award, Article 4.

10. Are there any other contributing parties who will be working on the project?

a. List Participating Agency/Institution:

- KDA
- Kansas Forest Service

- USDA-APHIS

b. List all who will work on the project:
- KDA state entomologist and temporary/seasonal employees
- Kansas Forest Service for locations of oak resources
- USDA-APHIS for funding and support

c. Describe the nature of their effort:
- Kansas Forest Service-help with site identifications
- USDA-APHIS-pest confirmation identification

d. Contribution:
- KDA-surveying
- USDA-APHIS-identification of pests.

C. APHIS Will:

- Provide traps and lure.
- Provide replacement traps and replacement lure.
- Provide information that is or becomes available for the Rosy Gypsy Moth, False Codling Moth, Summer Fruit Tortrix, Green Oak Tortrix, Variegated Golden Tortrix, Asian Gypsy Moth and European Gypsy Moth.
- Review data.
- Provide outreach materials for the Rosy Gypsy Moth, False Codling Moth, Summer Fruit Tortrix, Green Oak Tortrix, Variegated Golden Tortrix, Asian Gypsy Moth and European Gypsy Moth, if available.
- Provide funds to the Cooperator to cover costs outlined in the Financial Plan.
- Make arrangements for Taxonomic support in identification and sorting.
- Provide training, when necessary.

1. What equipment will be needed to perform the work? Include major items of equipment with a value of $5,000 or more.

a. Will Equipment be loaned or provided by APHIS? ☐Yes ☒No (If Yes, please list:

b. How will the equipment be used? N/A

IV) GEOGRAPHIC LOCATION OF PROJECT

A. Is the project statewide or in specific counties, townships, and/or national or state parks? (list the names of all counties, townships, and/or national or state parks, and tribal areas that apply)

This survey is planned for three years. The first year is planned for the northeast to north central with 50 sites trapped. Possible counties to be surveyed: Atchison, Brown, Clay, Cloud, Dickinson, Doniphan, Douglas, Franklin, Geary, Jackson, Jefferson, Johnson, Leavenworth, Lyon, Nemaha, Marshall, Miami, Morris, Osage, Ottawa,

Pottawatomie, Republic, Riley, Saline, Shawnee, Washington, Wabaunsee, and Wyandotte. (See map in III) Approach)

B. What type of terrain (e.g., cropland, rangeland, woodland) will be involved in the project? Many types of terrain from forests, to rural, to urban areas

C. Are there any unusual features which may have an impact on the project or activity such as rivers, lakes, wild life sanctuaries, commercial beekeepers etc? (list all that apply) There could be many unusual features which may have an impact on the project or activity such as rivers, lakes, forests, Indian reservations and wildlife sanctuaries.

D. Identify the kind of data to be collected: The kinds of data to be collected will include, but not limited to, observation number, observation date, data source, state/county, site code, EPA pest code, pest status and survey method.

E. Establish criteria to evaluate the results and successes of the project:

1. Results:

- Pest detection survey activities for the project completed.
- All data collected from the pest detection survey is entered into the NAPIS database.
- Maps of the pest detection survey activities are produced to aid in planning of future pest detection surveys, pathway risk analysis, and outreach activities.
- State CAPS and KDA meetings to keep updated on issues.

2. Successes:

- No pests found that would require regulatory action.
- Identification of high risk areas for oak pests.
- Increased knowledge of resource locations.

F. Methodology used to determine if the results and benefits are achieved:

1. Identified needs are met:

- Survey completed in timeframe specified.

2. Results and benefits are achieved:

- Review of the NAPIS database to ensure that data from the pest detection activities have been entered.
- Review the accomplishment reports, supporting outreach materials (if applicable), and maps.
- State CAPS and KDA meetings to keep updated on issues.

V) DATA COLLECTION AND MAINTENANCE

1. All survey data from cooperative agreements involving pest surveys will be entered by the State Survey Coordinator or KDA staff into the NAPIS database using approved protocol.

Data entry guidance appears below.

- First record for the State and/or County will be entered within 48 hours of confirmation of identification by a qualified identifier.
- All records will be entered into the NAPIS database by December 31 of the year of survey so these data can be included in the yearly Plant Board Report.
- Survey data will be collected with GPS technology (WGS84 datum is the standard)

VI) TAXONOMIC SUPPORT

A. Person or Institution that will screen targets (Name & Contact Information)

State of Kansas Entomologist
PO Box 19282, Forbes Field, Bldg. 282
Topeka, KS 66619
(782) 862-2180

Samples will be sorted to species. Any necessary sample verifications and identifications will be done by an approved entomologist or USDA identifier.

OR

B. ☒ Request for taxonomic support.
Any necessary sample verification will be done by an approved entomologist or USDA identifier.

VII) SIGNATURES

ROAR **Date** **ADODR** **Date**

Detailed Financial Plan

PROJECT: Exotic Oak Pest Commodity Survey
COOPERATOR NAME: Kansas Department of Agriculture
AGREEMENT NUMBER: 11-8453-1227-CA
TIME PERIOD: January 1, 2011-December 31, 2011

Financial Plan must match the SF-424A, Section B, Budget Categories

ITEM	APHIS FUNDS	COOPERATOR FUNDS (Show even if zero)	TOTAL
PERSONNEL:			
KDA staff 140 hours @ $25/hr	0	$3,500	$3,500
Subtotal	**0**	**$3,500**	**$3,500**
FRINGE BENEFITS:			
22% of salary of permanent employees	0	$770	$770
Subtotal	**0**	**$770**	**$770**
TRAVEL:			
Lodging 6 nights @ $85/night	$510	0	$510
KDA staff 500 miles @ $0.50/mile	$250	0	$250
Meals for overnight travel @ $39/day x 12 days	$468	0	$468
Vehicle rental for 6 months @ $1,400/month**	$8,400	0	$8,400
Subtotal	**$9,628**	**0**	**$9,628**
EQUIPMENT			
Subtotal	**0**	**0**	**0**
SUPPLIES			
Alcohol, alcohol proof pens, Ziploc bags, shipping, insect repellent, poison ivy wash, forms, hand tools, boxes, etc	$304	0	$304
Traps (provided by USDA)	0	0	0
Lure (provided by USDA)	0	0	0
Fuel 2,000 miles/15mpg x $3.50/gallon (2,000 miles/month x 6 months)**	$2,800	0	$2,800
Subtotal	**$3,104**	**0**	**$3,104**
CONTRACTUAL			
Key staffing – temp staff @ 19.27/hour for 1,181 hours	$22,758	0	$22,758
Subtotal	**$22,758**	**0**	**$22,758**
OTHER			

Shipping	$400	0	$400
Subtotal	**$400**	**0**	**$400**
TOTAL DIRECT COSTS	**$35,890**	**$4,270**	**$40,160**
INDIRECT COSTS (21.80% on Total Direct Cost of salary and fringe benefits)*	**0**	**$931**	**$931**
TOTAL	**$35,890**	**$5,201**	**$41,091**
Cost Share Information	87%	13%	

* Kansas' Negotiated Cost Rate (Salary + Fringe Benefits x %=Indirect Cost)

** There is a shortage of state vehicles. We give the option of renting a vehicle or using personally owned vehicles. If renting we pay for the fuel and if a personal vehicle is used we pay mileage.